



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,611	08/07/2001	Frank Cornelis Penning	NL000452	1413
24737	7590	03/12/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			CHEN, TIANJIE	
P.O. BOX 3001			ART UNIT	
BRIARCLIFF MANOR, NY 10510			PAPER NUMBER	

2652

DATE MAILED: 03/12/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,611

Applicant(s)

PENNING ET AL.

Examiner

Tianjie Chen

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-7 and 10-15, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chapman (IEEE Transaction on Magnetics, V.25, No.5, pp.3686-3688, 1989).

With regard to claims 1, 5, and 13, Chapman shows a method of manufacturing a magnetic head having a head face/a slider having an air bearing surface (ABL in Fig. 1a) and including a magnetic coil (Fig. 1a) which extends parallel to the head face (Introduction, lines 1-4)/ near the air bearing surface, in which method the magnetic coil is formed at a first side of a first substrate (head element substrate in Figs. 1a-1d), whereafter the first substrate provided with the magnetic coil is adhered with its first side to a side of a second substrate (Footform glass slider wafer in Figs. 1a-1d), whereafter material of the first substrate (head element substrate) is removed from a second side of the first substrate, which second side is turned away from the first side, to form the head face/air bearing face surface (Figs. 1c and 1d, "Process Approach" section, lines 7-16).

With regard to claim 2, Chapman further shows a substrate of silicon provided with a top layer of an insulating material is used as the first substrate, the top layer being adjacent to the first side ("Experimental Results" section, lines 9-15).

Art Unit: 2652

With regard to claim 3, Chapman further shows after a step involving the forming of a layer of a metal A (See the Figures with added numerals attached below) on the first substrate, at least one further step involving the forming of a layer of a non-conducting material B and the forming of a further layer of a metal C and the forming of interconnections D between two neighboring layers E and A of metal is performed to create the magnetic coil.

With regard to claim 4, Chapman further shows that a substrate of a glass material is used as the second substrate ("Experimental Results" section, line 3).

With regard to claims 6 and 14, Chapman further shows on a silicon substrate a top layer of an insulation material is provided in order to form the first substrate, the top layer being adjacent to the first side, wherein a substrate of glass is used as the second substrate, and wherein the silicon substrate is removed after adhering of the first substrate, to the second substrate.

With regard to claims 7 and 15, Chapman further shows during forming of the magnetic coil a metallic layer A (See the attached figures above) is formed beside the magnetic coil, which metallic layer is at least partly removed to form a recess during structuring of the face to form the air bearing surface.

With regard to claims 10 and 18, Chapman shows a slider manufactured by the method as claimed in the Claims 5/14.

With regard to claims 11 and 19, Chapman further shows a top layer ABL forms a protective layer for the slider.

With regard to claims 12 and 20, Chapman shows that the slider as claimed in claim 10/19 is used for a system for magnetically or magneto-optically recording information into a storage medium.

Art Unit: 2652

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman in view of Crue et al (US 6,452,742).

Chapman shows a method as described above, further shows that during forming of the magnetic coil an alumina layer is formed beside the magnetic coil in the making.

Chapman does not specify it as a heat sink layer.

Crue et al shows a magnetic head and discloses that alumina layer is a heat sink layer (Column 4, lines 36-39).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to realize that the alumina layer in Chapman's device is a heat sink layer as taught by Crue et al.

3. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman in view of Wang et al (US 5,978,319).

Chapman shows a method as described above, but does not specify the structure of the coil.

Art Unit: 2652

Wang et al shows a horizontal coil for a slider having a stack of interconnected coil layers (Fig. 5) is formed to create the magnetic coil.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to use the stack taught by Wang et al into Chapman's device. The rationale is as follows: Chapman discloses a head with a brief sketch of the coil but does not specify the details of the coil. Chapman teaches a stack of interconnected coil, which has low inductance. The low inductance raises the resonating frequency of the coil assembly, which increases the data recording rate (Column 4, lines 10-16). One of ordinary skill in the art would have been motivated to use the stack of interconnected coil taught by Wang et al in order to obtain high recording rate.

Response to Arguments

4. Applicant's arguments filed 01/09/2004 have been fully considered but they are not persuasive.

- Applicant argues that in reference of Chapman (IEEE Transaction on Magnetism, V. 25, No.5, pp. 3686-3688, 1989) (1) there is no magnetic coil formed on an edge of a substrate within the four corners.

Examiner's position: claim does not recite this feature; and neither disclosure, nor drawings show this feature. Furthermore, even if this feature were found in disclosure, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the features recited above) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Art Unit: 2652

- Applicant argues that neither Chapman nor Crue et al. disclose the formation of a coil at the surface as recited by rejected claim 8.

Examiner's position: claim 8 does not recite this feature.

- As to the coil, Examiner's position: it is well known in the art that a coil is an inherent part for a write head, which is shown in Chapman by the small squares in Figs 1a-1d. Chapman does not show the detailed structure, which is shown in Wang et al.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

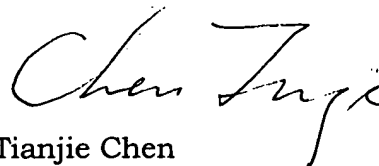
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

Art Unit: 2652

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tianjie Chen
Primary Examiner
Art Unit 2652
03/05/2004